

# METHOD OF OPERATING A REFRIGERATION CYCLE

## Abstract

The object of the present invention is to provide a method of operating a refrigeration cycle which is capable of preventing oil from staying in an evaporator and ensures high coefficient of performance as well as sufficient circulation of oil. An electronic expansion valve is controlled such that during normal operation, refrigerant is always in a superheated state at the outlet of an evaporator, and the refrigerant is periodically forced to have negative superheat for a predetermined time by a superheat control device. Thus, during normal operation, the refrigerant sucked into a variable displacement compressor always has superheat, whereby the refrigeration cycle can operate with high coefficient of performance and an engine driving the variable displacement compressor can be operated at high fuel efficiency. Also, the refrigerant is temporarily controlled so as to have negative superheat. Accordingly, lubricating oil stayed in the evaporator can be made to flow out to the variable displacement compressor, thus making it possible to prevent the compressor from seizing due to shortage of

the lubricating oil.